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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
KENDALL, CHUCK O	

ART UNIT	PAPER NUMBER
2192	

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/045,055	BENOUDIZ, EYAL	
	Examiner	Art Unit	
	Chuck O. Kendall	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 14 - 24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 14 - 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 January 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *09/23/02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/29/05 has been entered.

2. Claim 13 has been cancelled and claims 1 – 12 and 14 – 24, have been amended and are still pending.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The claimed invention is directed to non-statutory subject matter.

4. Regarding claims 1 – 7 and 17 – 24 the claimed invention is directed to Functional descriptive material per se. Applicant claims a debugger, and a collection of software programs, which is merely functionally descriptive material/software per se. And although, claims discloses functionally descriptive material, functionally descriptive

material per se is nonstatutory subject matter, see Warmerdam, 33 F.3d at 1360,31 USPQ2d at 1759.

5. Claims 1 – 24, recites steps for debugging a declarative language and/or system and/or process, but never shows the step of actually peforming debugging step in the claims and hence does not recite a tangible result.

For eligibility under 35 U.S.C. 101, claims have to meet certain guidelines to be considered statutory:

1) "USEFUL RESULT"

For an invention to be "useful" it must satisfy the utility requirement of section 101. The USPTO's official interpretation of the utility requirement provides that the utility of an invention has to be (i) specific, (ii) substantial and (iii) credible. MPEP Sec. 2107 and Fisher, 421 F.3d at ___, 76 USPQ2d at 1230 (citing the Utility Guidelines with approval for interpretation of "specific" and "substantial"). In addition, when the examiner has reason to believe that the claim is not for a practical application that produces a useful result, the claim should be rejected, thus requiring the applicant to distinguish the claim from the three Sec. 101 judicial exceptions to patentable subject matter by specifically reciting in the claim the practical application. In such cases, statements in the specification describing a practical application may not be sufficient to satisfy the requirements for section 101 with respect to the claimed invention. Likewise, a claim that can be read so broadly as to include statutory and nonstatutory subject matter must be amended to limit the claim to a practical application. In other words, if the specification discloses a practical application of a Sec. 101 judicial exception, but the claim is broader than the disclosure such that it does not require a practical application, then the claim must be rejected.

2) "TANGIBLE"

Applying *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical construct claimed, such as a disembodied data structure and method of making it. If so, the claim involves no more than a manipulation of an abstract idea and therefore, is nonstatutory under 35 U.S.C. § 101. In *Warmerdam* the **abstract**

idea of a data structure became capable of producing a useful result when it was fixed in a tangible medium, which enabled its functionality to be realized.

3) "CONCRETE RESULT"

Another consideration is whether the invention produces a "concrete" result. Usually, this question arises when a result cannot be assured. In other words, the process must have a result that can be substantially repeatable or the process must substantially produce the same result again. In re Swartz, 232 F.3d 862,864, 56 USPQ2d 1703, 1704 (Fed. Cir. 2000) (where asserted result produced by the claimed invention is "irreproducible" claim should be rejected under section 101). The opposite of "concrete" is unrepeatable or unpredictable. Resolving this question is dependent on the level of skill in the art. For example, if the claimed invention is for a process which requires a particular skill, to determine whether that process is substantially repeatable will necessarily require a determination of the level of skill of the ordinary artisan in that field. An appropriate rejection under 35 U.S.C. Sec. 101 should be accompanied by a lack of enablement rejection under 35 U.S.C. Sec. 112, paragraph 1, where the invention cannot operate as intended without undue experimentation. See infra.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. Claims 1 – 12 and 14 – 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Hines US2003/0028858 A1.

Regarding claim 1, Hines anticipates a debugger for visual debugging of declarative language encapsulated constraint system, comprising:

a collector for collecting generation events during a test process (see [0349] for event based debugging and collecting event traces) comprising constraint resolution, generation objects, the generation objects comprising fields ([0422], see 3606 and 3604 for event generator and event table), and further comprising generation decisions dynamically generated during constraint resolution (see [0145], which shows the coordinator allows debugging and includes constraints, also constraint resolution is further discussed in [0167- 0168], see *corrective actions*), wherein both said generation objects and said generation decisions comprise generation events for collection by said collector debugging a systematic, graphical representation for graphically relating said collected generation objects and said generation decisions, during said test process for debugging said declarative language encapsulated constraint system (see [0353] and [0358] which shows *Event based debugging* and *visualization tools* using an automated space/time graph diagram and *providing a visual representation of events*, and also in [0098], Hines shows the system provides an *encapsulating* formalism for coordination).

Regarding claim 2, the debugger of claim 1, wherein said graphical representation is as a two dimensional chart (see [0402] which discloses ," Abstraction is typically applied across two dimensions—events and processes", also see FIG. 33 and FIG. 40).

Regarding claim 3, the debugger of claim 2, wherein said two-dimensional chart is based on generation events collected during the generation process and static analysis phase (see, [0376] see, event graph), each event reflecting a generation operation, and wherein generation entities for generating said generation events are presented on a first dimension of said chart and a second dimension represents an execution sequence, with generation events being displayed as aligned with their related generation (see [0402] which discloses ," Abstraction is typically applied across two dimensions—events and processes", also see first and second compound events in [0402] which forms part of the graph, and see FIG. 33 and FIG. 40 and all associated text).

Regarding claim 4, the debugger of claim 1, further comprising:

a data browser for interactive selection of generation entities to be viewed (see [0358], see gives visual representation for event orderings, and see "the entities can also represent any entity that generates events in a sequential fashion", also see [0501] which shows selecting using a GUI and generation of an event).

Regarding claim 5, the debugger of claim 1, further comprising:

a step tree for presenting a sequence of steps performed by the generator, for identifying the step where the computation diverged from the expected behavior (see [0424] for cluster hierarchies and also see FIG. 37).

Regarding claim 6, the debugger of claim 1, further comprising:

an event browser for displaying generation events (see [0358], see gives visual representation for event orderings).

Regarding claim 7, the debugger of claim 1, further comprising:

an order browser for displaying generation field order decisions (see, [0355] for order of events and see [0358], see gives visual representation for event orderings, Examiner interprets this to have equivalent function with claimed limitations).

Regarding claim 8, Hines anticipates a method for visual debugging of a constraint system, said constraint system being encapsulated in a declarative language, comprising:

displaying a plurality of generation events collected [0403] during a generation process constraint resolution of said constraint system by a generator, such that a relationship between said plurality of generation events and a plurality of generation entities comprising fields, for generating said generation events is graphically displayed, and wherein an order of execution of said generation entities is also

graphically displayed, for visual debugging of the group of constraints (see [0400], shows graphical displays used during event based debugging which present the user information about distributed execution, also see [0402], which further discloses the diagram having a plurality of events and disclosing a representation of the events and process using and event abstraction which represents sequences of events as single entities, and also [0403], shows collecting the events, also see [0422], for event generation and collections).

Regarding claim 9, the method of claim 8, further comprising:

viewing a plurality of generation events sequentially from a selected event ([0401] – [0402], shows graphical diagrams and event abstraction representing sequences).

Regarding claim 10, the method of claim 9, wherein said sequence is displayed forward from said selected event (see FIG. 12 A, shows the queue depth of the sequence also see all associated text).

Regarding claim 11, the method of claim 8, wherein said sequence is displayed backward from said selected event (see [00295] – [00296], shows an address book mode which includes a lookup mode with triggers (events) which can go forward and backwards, see table, as interpreted by Examiner).

Regarding claim 12, a method for debugging a generation process with a user, comprising:

analyzing a generation process, comprising constraint resolution of a constraint system, said constraint system being encapsulated in a declarative language, to extract a sequence of events from the generation process (see [0145], which shows the coordinator allows debugging and includes constraints, also constraint resolution is further discussed in [0167- 0168], see *corrective actions*); and

displaying at least a portion of said sequence of events to the user in a visual display, wherein said visual display includes a representation of at least one generated field from at least one event (see [0353] and [0358] which shows *Event based debugging* and *visualization tools* using an automated space/time graph diagram and *providing a visual representation of events*, and also in [0098], Hines shows the system provides an *encapsulating* formalism for coordination and for *generated field* see "an entity that generates events in a sequential fashion" [0358]).

Regarding claim 14, the method of claim 12, wherein said visual display includes a representation of at least one constraint from at least one event ([0499] see events and coordinator constraints] and [0353] and [0358] which shows *Event based debugging* and *visualization tools* using an automated space/time graph diagram and *providing a visual representation of events*).

Regarding claim 15, the method of claim 12, wherein said visual display includes a representation of at least one generation event related to a generation entity ([0358], see "entities can also represent an entity that generates events in a sequential fashion").

Regarding claim 16, the method of claim 12, wherein said visual display includes at least one type of information displayed as a result of a selection by the user ([0006], see selective focus).

Regarding claim 17, Hines anticipates a debugger for debugging a generation process, comprising:

an analyzer for analyzing a generation process comprising constraint resolution of a constraint system, said constraint system being encapsulated in a declarative language, to extract a sequence of events from the generation process (see [0145], which shows the coordinator allows debugging and includes constraints, also constraint resolution is further discussed in [0167- 0168], see *corrective actions*); and

a visual display for displaying information related to at least one of a-field, and one of a constraint, a generation event, a path of a generation event, and a combination thereof (see [0353] and [0358] which shows *Event based debugging* and *visualization tools* using an automated space/time graph diagram and *providing a visual representation of events*, and also in [0098], Hines shows the system provides an *encapsulating* formalism for coordination).

Regarding claim 18, the generation debugger of claim 17, wherein said visual display further displays information related to an event collected during static analysis ([0144], see coordinator and static analysis).

Regarding claim 19, the generation debugger of claim 17, wherein said visual display further displays information related to an event collected during program execution ([0399], also see [0422] see event sensor 3602).

Regarding claim 20, the generation debugger of claim 17, wherein said information is represented with at least one icon and wherein said visual display further displays information when said icon is selected ([0492], see "visual cue, or icon").

Regarding claim 21, the generation debugger of claim 17, wherein said visual display further displays ordering information for a plurality of fields ([0484], see ordered event displays).

Regarding claim 22, the generation debugger of claim 21, wherein said visual display further displays ordering information based on static analysis ([0144], see coordinator and static analysis).

Regarding claim 23, the generation debugger of claim 21, wherein said visual display further displays ordering information based on order computed dynamically ([0268] – [0270]).

Regarding claim 24, the generation debugger of claim 21, wherein said visual display further displays ordering information related to a group of fields selected through said visual display ([0422]).

Response to Arguments

8. Applicant's arguments with respect to claims 1 – 12 and 14 – 24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuck Kendall whose telephone number is 571-2723698. The examiner can normally be reached on 10:00 am - 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on 571-2723695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ck.

Chuck Kendall 02/21/06